TOURISTS' WILLINGNESS TO PAY FOR AN ACCOMMODATION: THE EFFECT OF eWOM AND INTERNAL REFERENCE PRICE

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ABSTRACT

Understanding the determinants of consumers' willingness to pay (WTP) is an important challenge especially for practitioners. This study evaluates the effect of external information (eWOM valence and volume) and internal information (internal reference price) on consumers' WTP for an accommodation. The results of an online experiment (n=766) show a direct effect of valence on WTP which is strengthened by both volume and the internal reference price. Consumers with high reference prices are more sensitive to the effect of an increase in valence. Moreover, internal reference price has a non-linear influence on WTP. The findings suggest the relevant role of eWOM as well as internal reference price in determining consumers' WTP. The inclusion of these two variables in dynamic pricing strategies could lead to greater benefits for hospitality managers.

Keywords: online reviews, willingness to pay, internal reference price, eWOM valence, eWOM volume, dynamic pricing

1. Introduction

Online consumer reviews, which represents a common form of electronic word of mouth (eWOM), are widely trusted sources of information (Nielsen, 2015). Reviews and ratings have become especially relevant in service contexts (Bansal & Voyer, 2000), due to their intrinsic intangibility and valuation challenges. Hospitality sector is among the most influenced by eWOM (Cantallops & Salvi, 2014). Online reviews affect hotel sales (Öğüt & Onur Taş, 2012; Ye, Law, & Gu, 2009) and hotel performance (Xie, Zhang, & Zhang, 2014). Consumers thus rely on online reviews to gather information about hotels (Ayeh, Au, & Law, 2013; Filieri & McLeay, 2014; Z. Liu & Park, 2015; Miao, Kuo, & Lee, 2011; Sparks, Perkins, & Buckley, 2013). Studies have investigated several topics including booking intentions (Ladhari & Michaud, 2015; Mauri & Minazzi, 2013; Miao et al., 2011; Sparks & Browning, 2011), hotel choice (Noone & McGuire, 2013b; Vermeulen & Seegers, 2009; Viglia, Furlan, & Ladrón-de-Guevara, 2014) and even the trade-off between online reviews and hotel prices when choosing accommodations (Book, Tanford, & Chen, 2015; Noone & McGuire, 2013a; Noone & McGuire, 2013b). Abrate and Viglia (2016) note that in dynamic pricing contexts, online reviews gain greater importance relative to traditional star ratings. Despite its relevance to hospitality operators though, consumer willingness to pay (WTP) for tourism accommodations in the presence of eWOM remains undetermined.

In addition to addressing this research gap, we include an individual variable that has not been studied previously in eWOM settings, namely, consumers' internal reference price (IRP). It results from recall of the prices that consumers have seen in past purchase occasions (Rajendran & Tellis, 1994) and it strongly influences consumers' purchase decisions (Mazumdar, Raj, & Sinha, 2005). Therefore, it seems logical to predict that it affects consumers' WTP. The reference price concept is especially relevant in sectors characterized by price instability (Winer, 1986), such as the hospitality sector (Viglia, Mauri, & Carricano, 2016). That is, understanding the effects of reference price on WTP and its interaction with eWOM may be particularly useful for hospitality managers.

With this study, we therefore seek to analyze two main determinants of consumer WTP. First, we explore how external information—eWOM valence and volume— influence consumer WTP, testing the moderating role of eWOM volume. Second, we consider the direct and moderating effects of internal reference price on WTP. These two main drivers of WTP have not, to the best of our knowledge, been studied together before. In turn, our findings have useful implications for hospitality industry. In this sector, pricing decisions are evolving toward dynamic pricing, which allows hospitality managers to adjust their prices in line with different variables (Abrate & Viglia, 2016). Our results suggest that an adequate online pricing strategy, aligned with consumers' WTP, should consider both review statistics and the prices recently paid by consumers.

In the next sections, we describe our conceptual background for eWOM, WTP and reference price, as well as the methodology and results of the empirical study. Finally, we offer some conclusions, limitations, and suggestions for further research.

2. Conceptual background

2.1. Electronic word of mouth (eWOM)

Word of mouth, including its electronic form, is essential to decision making (Chevalier & Mayzlin, 2006; Duan, Gu, & Whinston, 2008). Electronic word of mouth is defined as any positive or negative statement made by potential, current or former consumers; about a product or a company, which is useful for a multitude of people and institutions via the Internet (Hennig-Thurau, Walsh, & Walsh, 2003). User-generated reviews and ratings are accessible and prevalent forms of eWOM (Chatterjee, 2001). According to information adoption theories, consumers modify their behavior in line with the suggestions in online reviews (Cheung, Lee, & Rabjohn, 2008; Filieri & McLeay, 2014). We seek to deepen this view by analyzing how eWOM might cause consumers to change their willingness to pay.

Previous literature identifies the impact of eWOM on firm-related variables such as profits and sales (Chevalier & Mayzlin, 2006; Yang, Kim, Amblee, & Jeong, 2012; Zhu & Zhang, 2010), as well as consumer-related variables such as product attitude (D. Park, Lee, & Han, 2008), opinion about the product (Jeong, Koo, & Jansen, 2015; M. Lee & Youn, 2009), purchase intentions (Mauri & Minazzi, 2013; Park, Lee, & Han, 2007), product considerations (Gupta & Harris, 2010; Vermeulen & Seegers, 2009), and product choice (Kostyra, Reiner, Natter, & Klapper, 2016; Senecal & Nantel, 2004). Despite its importance to firms though (Chaudhuri & Ligas, 2009), consumer willingness to pay has not received substantial research attention (J. Wu & Gaytán, 2013; J. Wu, Wu, Sun, & Yang, 2013; Y. Wu & Wu, 2016).

The same tendency occurs in the hospitality sector. According to Cantallops and Salvi (2014) who review research on eWOM and hotels, the factors associated with consumer sensitivity to price represent a notable research opportunity. Using a hedonic pricing model, Schamel (2012) identifies popularity ratings as an important determinant of hotel room prices. With this study, we conduct an experiment to analyze the impact of two eWOM statistics (valence and volume) on consumers' WTP, after accounting for the effect of IRP. A fuller understanding of the eWOM–WTP relationship in hospitality settings thus should have important implications for companies' pricing decisions—an important area of online marketing research that demands more attention (Grewal et al., 2010).

2.2. The influence of eWOM on willingness to pay (WTP)

Willingness to pay (WTP) denotes the maximum price the consumer agrees to pay for a given quantity of a product or service (Cameron & James, 1987; Krishna, 1991) and reflects the value that the consumer perceives (Kotler & Levy, 1969). For the selling firm, knowledge about consumers' WTP is essential to pricing decisions (Wertenbroch & Skiera, 2002).

Erdem, Swait, and Louviere (2002) propose that credibility is an antecedent of consumer price sensitivity, because it reduces information costs and perceived risk but enhances perceived quality. eWOM is a credible source of information for consumers because it is independent of marketers' selling intents (M. Lee & Youn, 2009). As Pavlou and Dimoka (2006) show, textual feedback comments create price premiums for reputable sellers by

engendering buyers' trust in the sellers' benevolence and credibility. Huang, Zhu and Zhou (2013) also indicate that online information about a product increases the price premium by reducing price consciousness and increasing trust.

Opinions from others customers can provide information about the quality and value of a product (Zhu & Zhang, 2010). User-generated content affects perceived value (Noone & McGuire, 2013a; Gruen, Osmonbekov, & Czaplewski, 2006) by providing consumers with a credible indication of what they can expect to receive for the price they pay (Chang & Wildt, 1994). Considering its capacity to influence perceived value, we posit that positive eWOM (reviews and ratings) increase the WTP of potential customers who have been exposed to it. Evidence of this relationship comes from Kostyra et al. (2016), who analyze the effect of online reviews on product choice and include price in their experiment. They observe that average willingness to pay for a one-star increase in online customer reviews is €48.96 for an eBook reader.

Three recent studies investigate the impact of review statistics on WTP (J. Wu & Gaytán, 2013; J. Wu et al., 2013; Y. Wu & Wu, 2016). These studies take a risk perspective (i.e., decision theory under uncertainty) to determine the relationship between online reviews (valence and volume) and consumer WTP. Only Wu and Wu (2016) account for the interaction between valence –average product rating- and volume –number of ratings-. As in Kostyra et al. (2016), they found that volume moderates the effect of valence on WTP. Studying this relationship in the service context of the tourism industry, applying an experiment method and including the measure of internal reference prices, represents a novel approach that enables us to address several pertinent questions:

- Is the effect of valence greater if a tourism accommodation attracts more comments?
- Do consumers with high IRP express the same WTP as those with low IRP?
- Does IRP moderate the impact of valence on WTP?

2.2.1. eWOM valence

As the average rating of online reviews, eWOM valence represents average customer satisfaction (Chintagunta, Gopinath, & Venkataraman, 2010). This extrinsic cue therefore has a significant influence on the prepurchase evaluations of a product or service. A positively valenced message increases consumer preferences for the product (Basuroy, Chatterjee, & Ravid, 2003; Chevalier & Mayzlin, 2006; Duan et al., 2008; Y. Liu, 2006), yet as Lee, Park, and Han (2008) observe, as the proportion of negative online consumer reviews increases, negative consumer attitudes tend to increase. In addition, literature about auctions convincingly shows that positive ratings increase price premiums but negative ones reduce them (Houser & Wooders, 2006). These considerations support the argument that eWOM valence is a cue of what consumers will receive, such that it may influence their perceived value and therefore their WTP.

In the tourism industry, ratings offer strong predictors of travelers' adoption of information (Filieri & McLeay, 2014). Positive online reviews improve hotel consideration (Vermeulen & Seegers, 2009) and purchase intentions (Ladhari & Michaud, 2015; Mauri & Minazzi, 2013). Moreover, Yacouel and Fleischer (2012) provide empirical evidence that information supplied by prior guests generates a price premium for hotels with good

reputations. In their research on hotel choice Jang, Prasad and Ratchford (2012) also find that the monetary value of a unit-increase in valence is positive. Therefore, we propose a positive relationship between eWOM valence and WTP.

H1. The valence of eWOM positively influences consumers' willingness to pay.

2.2.2. eWOM volume

The volume measure refers to the total number of comments or ratings about a product or service (Basuroy et al., 2003; Chevalier & Mayzlin, 2006; Y. Liu, 2006). The number of online reviews is an important influence on consumers' evaluations of online reviews and the products they recommend (Duan, Gu, & Whinston, 2008). However, prior literature offers conflicting results (J. Berger, Sorensen, & Rasmussen, 2010; Khare, Labrecque, & Asare, 2011; Vermeulen & Seegers, 2009), possibly because previous studies do not consider different facets of social influence. That is, in the normative facet, it is not relevant whether online reviews are positive or negative; their mere number provides a signal of product popularity (Jeong et al., 2015). More comments raise consumers' awareness of an offer, (Duan et al., 2008; Y. Liu, 2006; Vermeulen & Seegers, 2009). In the hospitality sector, Viglia et al. (2014) find that consumer preferences increase with volume, independent of valence. Jang et al. (2012) also investigate the monetary value of an increase in volume, so we predict a direct effect of volume on WTP.

H2. The volume of eWOM positively influences consumers' willingness to pay.

Yet the informative facet of social influence implies that people accept information from others (positive or negative) as evidence about reality, which reduces their sense of uncertainty. With more reviews, consumers increase their behavioral intentions, because they perceive those reviews as more informative (Park et al., 2007): An opinion expressed by many people is difficult to ignore (Weaver, Garcia, Schwarz, & Miller, 2007). High volume also is a credibility cue, especially for experience goods with uncertain quality (Yang et al., 2012), which could increase consumers' willingness to buy (Grewal, Gotlieb, & Marmorstein, 1994).

According to Khare et al. (2011), eWOM volume moderates the effect of valence on consumer persuasiveness. Investigating the impact of online reviews on product choice, Kostyra et al. (2016) also find an interaction between valence and volume. Finally, Wu and Wu (2016) indicate that the impact of review volume on consumers' WTP changes with review valence. All these studies refer to product contexts; we propose a similar interaction but for hospitality services, with the prediction that higher volume produces a stronger effect of valence on WTP.

H3. The volume of eWOM moderates the effect of valence on consumers' willingness to pay.

2.3 Internal reference price

Prior studies note the relevance of including reference prices in price response models (Lichtenstein & Bearden, 1989; Rajendran & Tellis, 1994), because it could have an influence on consumers' WTP. Monroe (1973) provides the first definition of the concept:

the reference price is the price against which buyers compare current product prices to assess their attractiveness. Researchers also distinguish between external reference prices, which are communicated on the market, and internal reference prices (IRP), which reflect the prices that consumers have encountered in past purchase occasions and stored in their memory (Rajendran & Tellis, 1994). Although it is an important determinant of consumers' decisions (Mazumdar et al., 2005), the effect of the IRP on consumer WTP has never been studied in an eWOM context.

Winer (1986) suggests that when making purchase decisions, consumers often compare objective prices against their IRP. With regard to reference price formation, Mazumdar et al. (2005) argue that the strongest determinant of consumers' IRP is the prior prices they have observed. Prices encountered on recent occasions have a greater effect on IRP than more distant ones (Mazumdar et al., 2005), and the last (i.e. most recent) price is the most influential (Nasiry & Popescu, 2011). Bearden, Kaicker, de Borrero, and Urbany (1992) show empirically that reference prices and WTP are correlated but distinct concepts; on average, WTP is higher than a reference price. It thus stands to reason that the IRP can influence consumer WTP.

Furthermore, price can signal the extrinsic quality of an offer (Zeithaml, 1988), especially for services. Tourism is a repeat-purchase service, so a recent booking and the last price paid for an accommodation likely function as signals of consumers' quality preferences for their next experience; building on consumption theory in terms of revealed preference (Samuelson, 1948). However, if the consumer already has enjoyed a high quality service (i.e., high IRP) which resulted in high satisfaction, he or she may be less willing to pay for additional increments in quality (Anderson, 1996), such that we predict a nonlinear effect of IRP on WTP. A higher IRP thus produces a greater WTP, but this relationship only exhibits increasing rates up to a threshold, after which WTP increases at a decreasing rate, following the law of diminishing marginal utility by Marshall (1920).

H4. Internal reference prices have quadratic effects on willingness to pay.

Beyond functioning as a signal of consumer preferences (Zeithaml, 1988)**,** IRP represents the economic cost that the consumer faced previously, which could be an indicator of his or her income. According to traditional consumer demand theory, income constraints negatively influence price acceptance. In particular, income has a direct relationship with tourism expenditures (Agarwal & Yochum, 1999; Downward & Lumsdon, 2000). In their literature review, Brida and Scuderi (2013) reveal that income positively influences tourism expenditures in 113 of 148 studies.

Accordingly, IRP can be regarded as a quality preference indicator for the next purchase experience or an economic constraint on acceptance of higher prices for consumers with low IRPs (e.g., due to low income). Both these effects should be taken into account when evaluating the relationship between valence and IRP. We therefore explore whether the focal relationship we study (valence–WTP) differs for consumers with high relative to low levels of IRP, that is, consumers with varying income levels.

2.3.1. Valence–WTP relationship for consumers with high IRPs

Consumers with high IRP are those who recently booked high quality accommodations, since price functions as a quality preference indicator (Zeithaml, 1988). How do they

react to eWOM valence? When they are exposed to higher valence, these high IRP consumers are less sensitive to it than consumers with low IRP in determining their WTP. As consumers with high IRP have already had access to high valence offers, a marginal improvement in valence does not imply a relevant increase in their satisfaction. When they confront low valence though, these consumers expect low quality accommodations (contrary to their quality preferences). In this case, their expectation of being satisfied decreases and they express low WTP (Homburg, Koschate, and Hoyer, 2005).

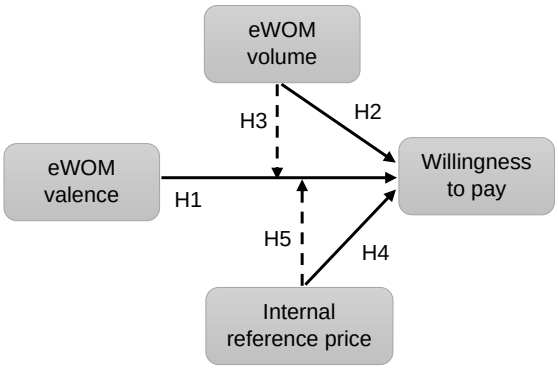
2.3.2. Valence–WTP relationship for consumers with low IRPs

If consumers have low IRPs, there likely is plenty of room for improvement in terms of the quality of service they can access. High eWOM valence then indicates high future satisfaction, leading them to be more willing to pay higher prices (Homburg et al., 2005). Yet these consumers also are limited in their budgets, so their WTP, even despite positive propensities, varies little across low and high eWOM valence. Although low eWOM valence might decrease their WTP, the effect will be less powerful than that for consumers with high IRP, because they consider the quality of the accommodation (represented by its valence) closer to their quality preferences (revealed in their IRP). Thus, they should be more willing to pay prices that reflect their quality preferences.

In brief, for consumers with high IRPs, the difference in WTP for accommodations that attract high versus low eWOM valence should be greater than that for consumers with low IRPs. We therefore predict different consumer responses to information provided by eWOM valence, depending on the level of IRP, in terms of WTP for the next accommodation. That is, we propose a moderating effect of IRP in the relationship between valence and WTP. Figure 1 shows the proposed model.

H5. Internal reference price exerts a moderating effect on the relationship between valence and willingness to pay.

Fig. 1. Proposed model



3. Methodology

3.1. Research context

As stated in the previous sections, the impact of eWOM is very important in the tourism sector (Cantallops & Salvi, 2014; Z. Liu & Park, 2015), because these comments affect the information search process and travel planning behavior (Ayeh et al., 2013). For this

study, we include three types of accommodations: hotels, apartments, and rural lodging, spanning more than 80% of total tourist demand in Spain. Spain ranks third in the world in terms of the number of foreign tourists, following only France and the United States (UNTWO, 2015). Spain's prominent tourism sector contributes 10.9% of the nation's gross domestic product (INE, 2012). Spain thus offers a good context for studying tourist behavior.

3.2. Experimental design

Our main objective is to investigate the influence of two specific factors (eWOM valence and volume) on WTP and the role of IRP in this relationship; to do so, we use an experimental design to control the effects more precisely rather than gathering hotel price data (cf. Masiero, Nicolau, & Law, 2015; Schamel, 2012). The stimuli have been designed to allow the manipulation of the independent variables in a reasonably realistic scenario. Specifically, we applied a 2 (review volume: high or low) $\times$ 2 (review valence: high or low) independent group factorial design. We examine whether valence, volume, and IRP influence WTP, as well as whether any moderating effects of volume and IRP affect the valence–WTP relationship. The proposed models in equation form are as follows:

(a) $WTP = \alpha_1 + \beta_{1a} \bullet VA + \beta_{2a} \bullet VOL + \beta_{3a} \bullet VA \bullet VOL + e_1$, and
(b) $WTP = \alpha_2 + \beta_{1b} \bullet VA + \beta_{2b} \bullet IRP + \beta_{3b} \bullet IRP \bullet VA + \beta_{4b} \bullet IRP^2 + \beta_{5b} \bullet IRP^2 \bullet VAL + e_2$,

where WTP is willingness to pay, VA indicates valence; VOL is volume; IRP refers to the internal reference price; β reflect the parameters; and e is the error term. We use Expression (a) to test H1, H2, and H3, then apply Expression (b) to test H4 and H5.

3.3. Sampling and stimuli

The data collection relied on a web-based survey, sent to a national consumer Internet panel. The stimuli comprised a screenshot of a fictional infomediary site, designed to mimic the user experience of booking accommodations. We imposed two necessary conditions for participation in this experiment, using two screening questions. First, participants needed to have booked accommodations online at least once in the previous two years. Second, they should have searched for accommodation information online, which helped ensure that they would be familiar with the stimuli. We received 944 completed questionnaires, 930 of which were valid. We then removed 14 questionnaires with outlier values; an in-depth analysis of these responses suggested that the consumers misunderstood questions related to expenses and WTP. We also removed any questionnaires that were completed in less than 2 minutes, which were unlikely to be accurate or invoke sufficient attention from the respondents. Finally, we noted the amount of time that the respondents took to observe the stimuli and removed those who spent less than 5 seconds on them.

The final sample thus consisted of 766 participants, whose socio-demographic characteristics generally were in line with the profile of the Spanish population. It was composed of consumers from 17 to 54 years of age (87.6% of the sample), and men represented 54.2% of the sample. In addition, the majority of respondents had earned a university degree (53.1%).

Table 1. Demographic profile

Characteristic	n	%
Gender		
Male	416	54,3
Female	350	45,7
Age		
18-24	81	10,6
25-34	156	20,4
35-44	230	30,0
45-54	186	24,3
55-65	113	14,8
Education		
Secondary education	68	8,9
High school or training cycles	331	43,2
University or above	367	47,9
Monthly household income		
<€1,800	227	29,6
€1,800-€3,000	233	30,4
>€3,000	185	24,2
Rather not answer	121	15,8
Occupation		
Employed	537	70,1
Unemployed	229	29,9
Total	766	100,0

The items sought to measure quality according to various factors, including relevance, accuracy, comprehension, and updating (Cheung, Lee, & Rabjohn, 2008). Participants indicated the kind of accommodation they planned to use on their next trip and then were shown a hotel, apartment, or rural lodging establishment accordingly. The valence and volume were selected randomly for each participant. The example stimulus in the Appendix 1 indicates someone who chose a hotel, then was randomly assigned to the high valence–low volume combination.

3.4. Measures

eWOM valence. We used an overall rating to indicate positive (4.5 of 5) versus negative (1.5 of 5) valence. We also included text comments aligned with the overall ratings. These comments reflect the most frequently mentioned topics in real reviews, such as location, staff, and cleanliness (Barreda & Bilgihan, 2013).

eWOM volume. The total number of comments was provided in the stimuli, with two levels for each kind of accommodation: high or low. The high and low volume numbers

were 621 and 9 for hotels and 72 and 7 for apartments or rural accommodations. These fixed figures reflect our research on real-world infomediaries.

Willingness to pay. We used a double question format (double-bound dichotomous choice [DBDC]), which constitutes a type of closed question contingent valuation. That is, with the DBDC method, participants consider a sequence of two bids and indicate whether their WTP equals or exceeds that bid (Hanemann, Loomis, & Kanninen, 1991), as has been used in prior studies (e.g. Li & Meshkova, 2013; Sanjuán et al., 2012). The starting price was the average price of the corresponding accommodation type (Noone & McGuire, 2013a). Using different initial prices is necessary due to the real differences in price across hotels, apartments, and rural accommodations. The initial price for the hotel (64€ per room per night) reflected the average daily rate for 3-star hotels in Spain (INE, 2014). For rural accommodations, the initial price (24€ per person per night) came from a report by the leading rural accommodation infomediary in Spain (Toprural, 2014). The initial price for apartments (23€ per person per night) was chosen according to a national report by a holiday accommodation source (Homeaway, 2014). A tourism expert also confirmed the adequacy of these prices. A 15% difference from the initial price, reflecting the price fluctuations on different infomediaries, is similar to the manipulation in other studies that rely on the DBDC methodology (Li & Meshkova, 2013).

Internal reference price. We use the price paid for their last holiday as the consumers' reference price (Nasiry & Popescu, 2011).Participants were asked to recall the total accommodation expenses and number of nights and people for their last holiday, which enabled us to calculate the more complex value of the price per person per night. We use the price per person per night because consumers usually conduct this calculation internally, before making their booking decisions, and use it for comparison against a current offer, rather than the total price paid. Finally, we centered this IRP to alleviate multicollinearity problems. Measurement items are shown in Appendix 2.

3.5. Pretest

With a pretest, we checked whether the manipulations of valence and volume were adequate. First, we interviewed a group of experts, including researchers familiar with consumer behavior and eWOM literature. They offered several recommendations for improving the online survey. Second, we asked 20 potential travelers who met the requirements for online booking experience to complete the questionnaire, then interviewed them to assess the adequacy of the manipulations. These results showed that the fixed levels of valence and volume were effective and seemed realistic. Regarding the initial prices, because we used average rates provided by different tourism institutions in Spain, they actually represent market prices; the pretest confirms that these initial prices also were realistic to the respondents.

4. Results

We analyzed the data with the statistical package IBM SPSS Statistics, Version 21, and conducted a hierarchical regression analysis. The variance inflation factor (VIF) values

for each variable were less than 6, so multicollinearity was not a concern (Cohen, Cohen, West, & Aiken, 2013).

We introduced the variables hierarchically into the regression. That is, to test Expression (a), we first introduced valence (Model 1), followed by volume (Model 2), and then their interaction (Model 3). For Expression (b), Model 4 contains valence and IRP; their interaction is in Model 5. Model 6 integrates valence and the linear and quadratic effects of IRP; their interactions are in Model 7. The results are in Table 1.

Table 2. Hierarchical regression analysis

a. H1, H2, and H3

Variable	Model 1 (a)		Model 2 (a)		Model 3 (a)	
	β	Std. coefficients	β	Std. coefficients	β	Std. coefficients
Intercept	30.747		31.188		32.740	
e-WOM valence (VAL)	10.169	0.249***	10.136	0.248***	7.180	0.176***
e-WOM volume (VOL)	_	_	-0.863	-0.021	-3.893	-0.095*
VAL.VOL	_	_	_	_	5.995	0.125**
R-squared	0.062		0.063		0.068	
Adjusted R-squared	0.061		0.060		0.064	

*$p < 0.1$, **$p < 0.05$, *** $p < 0.001$.

b. H4 and H5

Estimate variable	Model 4 (b)		Model 5 (b)		Model 6 (b)		Model 7 (b)	
	β	Std. coefficients	β	Std. coefficients	β	Std. coefficients	β	Std. coefficients
Intercept	30.703		30.716		32.022		32.297	
eWOM valence (VAL)	10.377	0.254***	10.418	0.255***	10.313	0.452***	10.075	0.247***
IRP	0.179	0.264***	0.128	0.188***	0.306	0.253***	0.268	0.395***
VAL×IRP	_	_	0.110	0.111**	_	_	0.107	0.107
$(IRP)^2$	_	_	_	_	-0.001	-0.248***	-0.002	-0.297***
VAL×$(IRP)^2$	_	_	_	_	_	_	0.000	0.042
R-squared	0.132		0.138		0.158		0.168	
Adjusted R squared	0.129		0.135		0.154		0.162	

*$p < 0.1$, **$p < 0.05$, *** $p < 0.001$.

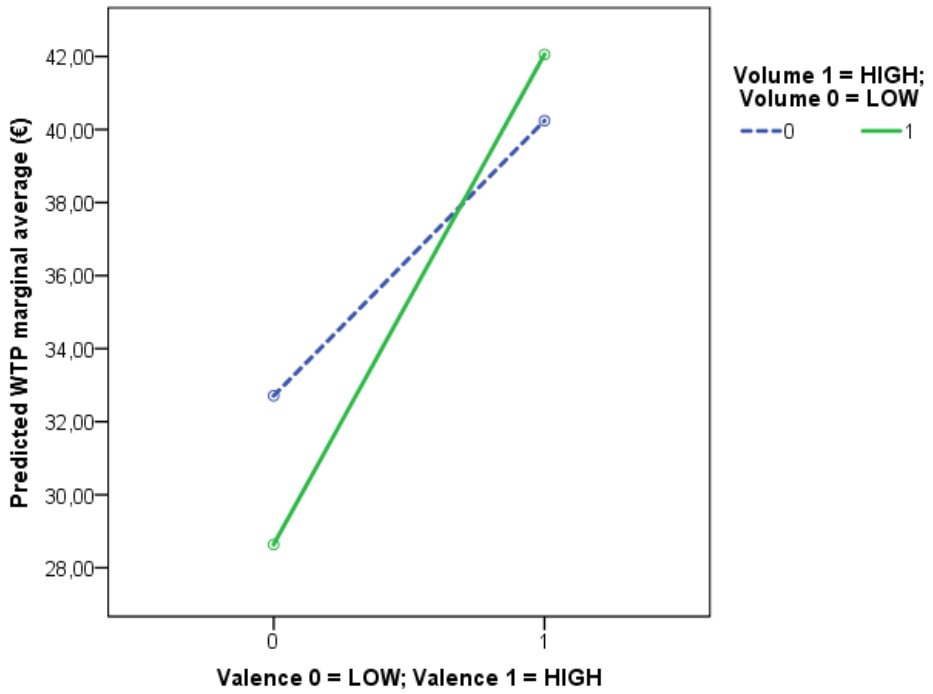
The value of the adjusted R-square for Model 7 indicates that 16.2% of the variability in WTP can be accounted for by valence, IRP, and their interaction. The observed R-square values are very similar to those of the adjusted R-square, suggesting good cross-validity of the models. The Durbin-Watson value is 1.433 for Model 3 and 1.607 for Model 7, so there is no residual correlation.

The strongest antecedent of WTP is eWOM valence, in both Panels a (β = 10.169, $p < .001$) and b (β = 10.377, $p < .001$) of Table 1. Consumers who were exposed to a

positively valenced scenario were willing to pay €10,38 more than those exposed to a negatively valenced scenario. The direct effect of eWOM volume on WTP is not significant though; people are not willing to pay only for popularity, which does not support the normative facet of social influence.

However, in the interaction effects, we find a significant moderating effect of volume on the relationship between valence and WTP (β = 5.995, $p < .05$), in support of an informational perspective on social influence. Volume amplifies the effect of valence on WTP. When valence is low, consumers' WTP decreases when volume changes from low to high. When valence is high though, consumers' WTP increases when volume changes from low to high. This enhancing effect is represented in Figure 2.

Fig. 2. Valence × volume interaction effect on WTP

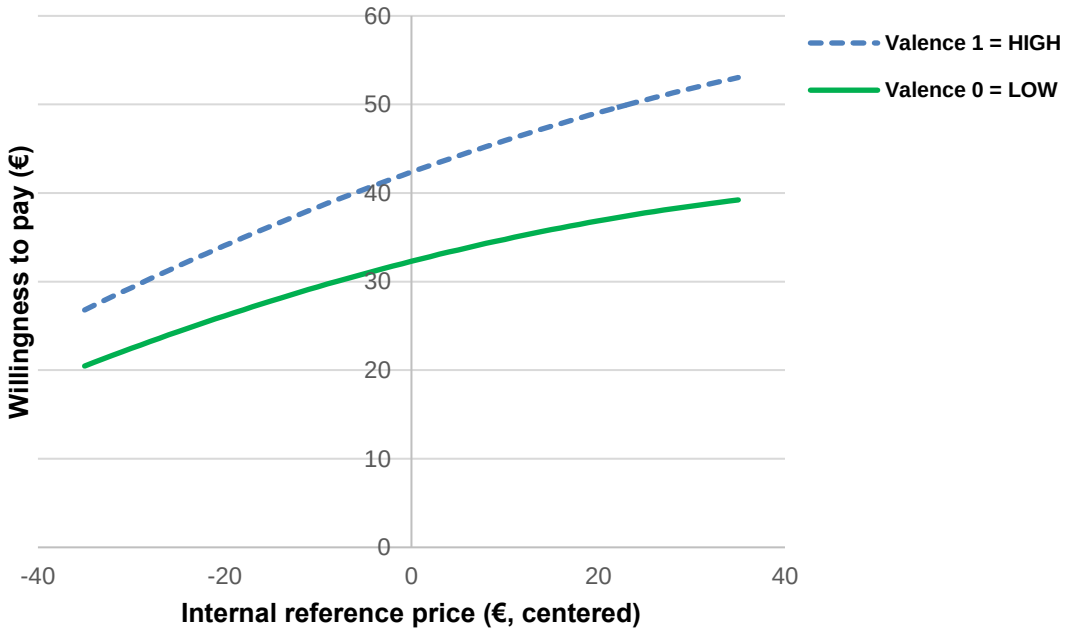


Finally, IRP has significant direct and moderating effects on WTP. Regarding the direct effects, the analysis reveals a quadratic effect of IRP on WTP, though the effect is small when we consider the coefficient. Yet the comparison of Model 4 with Model 6 (without considering interaction effects) reveals that the coefficient for IRP^2 is negative (though small in absolute terms) and significant (β = -.001, $p < .001$). Therefore, the effect of IRP on WTP is positive at an increasing rate up to a threshold, then at a decreasing rate beyond that threshold, as we predicted on the basis of theory and as Figure 3 reveals.

Regarding the moderating effect of IRP on the relationship between valence and WTP, unlike the direct effect, it does not occur in quadratic terms. The moderation between valence and IRP (β = .110, $p < .05$) means that the effect of valence on WTP differs, depending on the level of IRP. When IRP is low, valence is less important in the WTP decision, because WTP is severely limited by consumers' budgets. As Figure 3 indicates, when IRP is low, the two curves have very similar values. However, when IRP is high, consumers have the capacity to pay more if they observe high valence. They also try to

avoid accommodations with low valence, which fall outside their preferences, so their WTP is lower in these cases. In Figure 3, we show that the distance between low and high valence is greater at high levels of IRP than at low levels. There are two main reasons: (1) the budget limitations of travelers with low IRP and (2) the distance from the preferences of travelers with high IRP. When the valence is low (curve B), in Figure 3, the relationship between IRP and WTP is flatter. Despite their high IRP (and greater capacity to pay), consumers are not willing to pay more because of the poor quality they perceive in this case. We thus find support for all our hypotheses except H2.

Fig. 3. Effect of IRP on WTP



5. Discussion

This study seeks an understanding of how external information (eWOM) and internal information (IRP) influence consumer WTP. Unlike prior research that focuses on the effect of reviews on consumers' purchase intentions (Ladhari & Michaud, 2015; Mauri & Minazzi, 2013; Vermeulen & Seegers, 2009) or on sales (Öğüt & Onur Taş, 2012; Ye et al., 2009), we go a step further and consider WTP, which is important information for managers. Both eWOM valence and volume have significant effects on consumers' prepurchase evaluations (Noone & McGuire, 2013a), as well as on consumers' WTP. By including IRP, which relates to consumers' previous experience, we also reveal its role in determining WTP—an insight that does not appear in previous eWOM studies to the best of our knowledge.

The findings suggest some interesting relationships. First, valence has a positive, direct effect on WTP. When consumers are exposed to services that invoke positive reviews, their WTP increases. Our findings extend these results to demonstrate that eWOM

influences not just hotel choice (Book et al., 2015; Noone & McGuire, 2013b) or perceived value (Noone & McGuire, 2013a) but also the price they are willing to pay.

Second, we find a moderating effect of volume, such that it strengthens the effect of valence on WTP, as similarly indicated by Khare et al. (2011) or Kostyra et al. (2016) in their assessment of consumer preferences. Wu and Wu (2016) also show that the volume–WTP relationship varies by valence. We confirm this relationship in the service context of the tourism industry, showing that when the accommodation prompts good/bad opinions, high volume makes this valence more credible, such that consumers are willing to pay more or less than they would be in a low-volume context. This tendency supports the informative view of social influence but conflicts with Viglia et al.'s (2014) normative claim that volume enhances preferences, independent of valence.

Third, noting studies that suggest that the influence of price decreases when consumers are exposed to user-generated content (Book et al., 2015; Noone & McGuire, 2013a), we investigate how consumers consider price-related information when they evaluate an offer and determine their own WTP. Aside from eWOM, the results affirm that consumers' IRP is an important factor in WTP decisions, with a quadratic effect. As IRPs increase, consumer WTP increases at an increasing rate. Once the IRP reaches a threshold though, the consumer's WTP increases at a decreasing rate. When a consumer already has access to high levels of quality (high IRP), paying for additional quality increments may not make sense, implying a saturation effect in the relationship, due to the decrease in marginal WTP increments.

Fourth, together with the direct effect of IRPs on WTP, we demonstrate that IRPs enhance the influence of valence on WTP, such that when they are low, consumers are less sensitive to the effect of an increase in valence, because their purchasing power limits their WTP (using IRP as an indicator of consumers' economic capacity). In this scenario, the effect of valence decreases. Conversely, when IRP is high, consumers may respond more positively to high valence, because they do not suffer any economic restrictions. But these consumers penalize low valence (IRP as an indicator of quality preferences). For this reason, the WTP differential for high versus low valence is greater for consumers with high relative to low IRP. Overall then, we extend existing research by explicating the relationships among e-WOM valence, e-WOM volume, and WTP in a tourism context, as well as analyzing the effects of IRP on consumers' WTP decisions in the presence of eWOM.

6. Managerial implications

Our study provides new insights for hospitality managers. Traditionally, companies have based their pricing strategies on forecasted levels of demand, price elasticity of demand, or competitors' prices. However, the role of pricing is to maximize sellers' profits by capturing consumers' product valuations (Kim, Natter, & Spann, 2009). Accordingly, our results suggest that hospitality operators should consider adjusting their prices, in line with the evaluations that the reviews contain about their accommodations. Online reputation plays an increasing role in price decisions (Abrate & Viglia, 2016).

Dynamic pricing techniques available today enable managers to adjust their prices depending on several variables, including online reputation. This study confirms that valence constitutes a determinant variable that should be considered in dynamic pricing practices. Regarding eWOM volume, a large number of comments is desirable only for operators with positive ratings that meet their clients' expectations. For these operators, the positive effect of valence can be bolstered by volume. Therefore, hospitality operators should make an effort to satisfy their clients and encourage them to leave feedback. Thus, their online reputation will increase allowing them to raise their prices.

Yet eWOM is not the only variable that can be considered to fix an appropriate price for services. We prove empirically that internal reference price affects consumers' WTP, as well as review statistics per se. What consumers remember from their last shopping experience influence the way consumers integrate eWOM into their WTP decisions. Accordingly, hospitality managers should integrate the recent prices paid by consumers in their pricing decisions. If a consumer recently booked at a particular infomediary or hotel chain in which is registered as a client, the booking details (including price) are known by the company. When this consumer decided to book again at this infomediary or hotel chain, the company can use the last paid price as another variable to fix the price for this consumer. This practice is made possible by the emergence and spread of different forms of pricing intelligence software, which use algorithms to fix their prices according to private consumer information.

At the same time, managers might leverage IRPs to segment their target market. That is, consumers react differently, depending on their IRP. Companies have a lot to lose from clients with high IRP, because if they are exposed to low valence, their WTP will decrease precipitously. On the contrary, they have little to lose from clients with low IRP (and little to gain, due to budget constraints). Therefore, managers should focus on consumers with high levels of IRP, who are the most profitable.

By integrating this consumer information into their pricing strategies, hospitality operators can exploit eWOM more fully. Dynamic pricing techniques help align prices with consumers' WTP and enable the firm to obtain more consumer surplus and boost their profits.

7. Limitations and further research

We only considered a tourism context and asked consumers to make decisions about a hypothetical accommodation. These findings might not generalize to other sectors, at least without careful consideration. Although WTP implies more involvement than purchase intentions, it still measures hypothetical instead of actual purchases. We also did not account for eWOM consensus (or variance), though prior research suggests that higher consensus increases demand (Sun, 2012) and the persuasiveness of positive reviews (West & Broniarczyk, 1998). To expand our framework, further studies might consider if eWOM consensus influences consumer WTP.

Another limitation of this study is that we use only the last paid price to approximate the reference price, because this price is the most influential (Nasiry & Popescu, 2011). We do not include the whole sequence of previous prices. Beyond the inclusion of IRP, it would be interesting to introduce other consumer characteristics in our model, such as travel frequency (i.e., experience indicator), risk aversion, or socio-demographic characteristics. Including these variables could help approximate the fixed price relative to consumers' WTP and give firms a means to obtain more consumer surplus. However, there are several reasons price and WTP might differ; for example, in a market in which supply is greater than demand, firms normally compete on price. We recommend that further research consider different market competition scenarios as Viglia Mauri and Carricano (2016) show.

Finally, we examine one type of eWOM. A richer analysis might account for other user-generated content, such as photos and videos, and or other types of eWOM, including comments on social networks. Considerations of the different impact of positive and negative eWOM on WTP also might broaden our findings. Finally, it would be interesting to study the effect of companies' responses to consumers' comments and analyze their impacts on consumers' WTP. We hope research continues to offer interesting extensions to our findings.

APPENDIX 1

Fig. A.1 Example Hotel Stimulus

HOTEL CORAL ★★★

Este hotel está situado en uno de los mejores enclaves de la zona. Ofrece un alojamiento elegante y una buena relación calidad-precio.

Es un hotel perfecto para disfrutar de la vida cultural y de las actividades de ocio de la zona. Se encuentra a 5 minutos de las principales zonas turísticas y comerciales. Por otro lado, su localización es también idónea para la realización de múltiples actividades en la naturaleza. Además cuenta con una amplia oferta de servicios relacionados con el bienestar y el relax.

Servicios destacados: centro de SPA, Wi-Fi gratuito en todas las habitaciones, parking.

COMENTARIOS DE LOS CLIENTES

4,5 ★★★★★ Nota media

9 comentarios

5/5 ★★★★★

"Siempre perfecto" *12 julio 2014*

Me he alojado muchas veces en este hotel y siempre está todo perfecto. A 5 minutos andando de las principales zonas, hay bares y restaurantes cerca. La habitación está muy bien, todas tienen terraza. El desayuno es buffet, muy variado. Es un hotel pequeñito pero muy recomendable.

5/5 ★★★★★

"Económico, cómodo y moderno" *3 marzo 2014*

Hotel económico, con una decoración moderna y sencilla. El personal es atento y agradable. El spa es pequeño pero muy bien preparado, perfecto para relajarse. Es un hotel al que volvería sin dudar, me he sentido muy a gusto.

4/5 ★★★★☆

"Excelente ubicación y mejor trato, para repetir" *20 noviembre 2013*

He pasado junto con mi mujer, un par de días de vacaciones en este hotel. La estancia ha sido agradable así como la atención recibida. Relación calidad-precio bastante buena.

5/5 ★★★★★

"Perfecto fin de semana" *3 septiembre 2013*

Es un hotel pequeñito y muy cómodo. Las habitaciones están muy limpias, el mobiliario es moderno. El baño, amplio y limpio. Muy silencioso, a pocos metros de las principales zonas. Personal muy amable. El desayuno buffet perfecto.

APPENDIX 2

Table. A.2 Measurement items

Variable	Measure
eWOM valence	Low (or negative): rating 1,5 out of 5 High (or positive): rating 4,5 out of 5
eWOM volume	Low: 9 (hotel) - 7 (rest of accommodations) High: 621 (hotel) - 72 (rest of accommodations)
Willingness to pay	**Q1.** Considering your next holiday, if the accommodation you have just observed was in a location you were traveling to, would you book this accommodation at X€ per room (if hotel)/per person (otherwise), per night? (Only accommodation, VAT is included.) *Yes No* **If participant answers 'Yes' to Q1, then Q2 follows:** Q2. Would you still book this accommodation at X€? *Yes No* If participant answers 'Yes' to Q2, then Q3 follows: Q3: What is the maximum price you would pay for it? **If participant answers 'No' to Q1, then Q4 follows:** Q4. Would you book this accommodation at X€ then? *Yes No* If participant answers 'No' to Q4, then Q5 follows: Q5: At what price, if any, would you be willing to book this accommodation?
Internal reference price	"How much did you spend on accommodation for your last holiday?"

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